**CLAIMS:**

1. A method of investigating a sample comprising:

irradiating the sample with radiation having at least one frequency in the range from 25GHz to 100THz;

detecting radiation that is scattered by the sample using a detector positioned relative to the sample so as to reduce detection of specular radiation.

2. The method of claim 1 further comprising analysing the detected radiation to determine a characteristic of the sample.

3. The method of any preceding claim, wherein the detected radiation is substantially non-specular radiation.

4. The method of any preceding claim wherein the radiation detected is back-scattered radiation.

5. The method of any preceding claim further comprising positioning the sample so as to direct specular reflection away from one or more detectors detecting the non-specular radiation.

6. The method of claim 2 wherein the analysing further comprises:

obtaining a time domain waveform from the detected radiation;

obtaining a frequency spectrum from the time domain waveform;

deriving information characterising the sample from the frequency spectrum.

7. The method of claim 6 wherein the sample is characterised graphically in a scattering spectrum.

8. The method of claim 7 wherein the scattering spectrum is an average scattering spectrum.

9. The method of claim 6, 7 or 8 wherein the information derived characterises an internal structure of the sample.

10. The method of any one of claims 6 to 9 wherein the information derived characterises the granularity and/or density of the sample.

11. The method of any one of claims 6 to 9 wherein the information derived characterises impurities or defects in the sample.

12. The method of any preceding claim further comprising irradiating the sample at a number of points on the sample surface to obtain information characterising the whole sample or a region of the sample.

13. The method of any preceding claim further comprising raster scanning the sample so as to derive three dimensional distribution information characterising the sample.

14. Method of any preceding claim further comprising positioning the sample so that specular reflection is directed back towards an emitter configured to irradiate the sample.

15. Use of the method of any preceding claim in characterising a pharmaceutical sample.

16. Apparatus for investigating a sample comprising:

emitter for irradiating the sample with radiation having at least one frequency in the range from 25GHz to 100THz;

detector for detecting radiation that is scattered by the sample in a non-specular manner, which, in use, is positioned relative to the sample so as to reduce detection of specular radiation.

17. Apparatus of claim 16 wherein the detector is positioned so as to detect substantially non-specular radiation.

18. Apparatus of claim 16 or 17 wherein the emitter is positioned so as to, in use, irradiate the sample over a first region, which radiation is specularly reflected by the sample over a second region and the detector is positioned so as to receive radiation scattered by the sample over a third region, such that the third region is different to both the first region and the second region.

19. Apparatus of claim 18 wherein the third regions does not overlap the first or second regions.

20. Apparatus of claim 18 or 19 wherein the second region is equal to the first region.

21. Apparatus of any one of claims 16 to 20 further comprising one or more additional detectors for detecting non-specular radiation scattered by the sample.

22. Use of an apparatus according to any one of claims 16 to 21 in characterising a pharmaceutical sample.

23. Method substantially as herein described with reference to the accompanying drawings.

24. Apparatus substantially as herein described with reference to the accompanying drawings.

25. A method of investigating a sample comprising:

irradiating the sample with radiation having at least one frequency in the range from 25GHz to 100THz;

detecting radiation that is scattered by the sample using one or more detectors positioned in a region out of the angular range to be expected by Snell's law for radiation to be reflected from the sample surface.